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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,137	12/18/2001	James P. Viken	23,318-40	4142
7590	10/28/2003		EXAMINER	
John F. Klos, Esq. Fulbright & Jaworski L.L.P. Suite 4850 225 South Sixth Street Minneapolis, MN 55402-4320			VERDIER, CHRISTOPHER M	
			ART UNIT	PAPER NUMBER
			3745	20
DATE MAILED: 10/28/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

	Application No.	Applicant(s)
	10/026,137	VIKEN, JAMES P.
	Examiner	Art Unit
	Christopher Verdier	3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 9-23-03, 9-29-03.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 2-5,24-41 and 51-58 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 25,28-30 and 34-41 is/are allowed.

6) Claim(s) 2-5,24,26,31-33 and 51-58 is/are rejected.

7) Claim(s) 27 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 18 December 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____

Receipt and entry of Applicant's Amendment and 1.131 Declaration dated September 23, 2003 and Applicant's Supplement to Amendment dated September 29, 2003 is acknowledged. Claims 2-5, 24-41, and 51-58 are pending. Note that claim 59 has been renumbered as claim -- 58 -- by the examiner under rule 1.26, as set forth later below.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 23, 2003 has been entered.

Remarks

Applicant's request that the Terminal Disclaimer pertaining to U.S. Patent Application 08/209,061 which matured into U.S. Patent 5,472,064 be withdrawn is noted. Applicant has stated that a Supplemental Declaration by the inventor reflecting this has been provided. If Applicant desires that the Terminal Disclaimer pertaining to U.S. Patent 5,472,064 be withdrawn, a petition under 37 CFR 1.182 must be filed. See MPEP 1490.

Declaration under 37 CFR 1.131

The Declaration filed on September 23, 2003 under 37 CFR 1.131 has been considered but is ineffective to overcome the Chen 5,337,708 and the Parker 5,370,160 references.

The evidence submitted is insufficient to establish a reduction to practice of the invention in this country or a NAFTA or WTO member country prior to the effective date of the Chen '708 and Parker '160 references.

With regard to claim 2, Applicant's exhibits 1-4 fail to establish that the used fluid is reintroduced into the cooling circuit while being substantially unrestricted by the bypass line so that pressure within the bypass fluid line is substantially equivalent to pressure within the fluid cooling circuit. With regard to claim 3, Applicant's exhibits 1-4 fail to establish that the used fluid flow through the bypass conduit is substantially unrestricted by the bypass conduit so that pressure within the bypass fluid conduit is substantially equivalent to pressure within the transmission cooling circuit. With regard to claims 4-5, Applicant's exhibits 1-4 fail to establish that the used fluid is passed substantially unrestricted through the bypass conduit so that pressure within the bypass conduit is substantially equivalent to pressure at the pair of transmission cooling circuit ports. With regard to claim 24, Applicant's exhibits 1-4 fail to establish that the bypass condition where the used fluid from the fluid cooling circuit is passed through the bypass conduit without substantial restriction. Applicant's Declaration only states that the exhibits show a selective bypass component and is not directed to the above claim language which pertains to claim language selected by Applicant in an attempt to define over the applied references, and it cannot be determined from exhibits 1-4 that the photographs of the alleged invention posses this feature. Perhaps Applicant should comment on the reference numerals in exhibits 1-3. With regard to claim 26, note that the Applicant's Declaration is ineffective to remove Parker '160 as a

teaching reference, because Parker '160 was relied upon to teach measuring a fluid parameter in the first and second conduits during the exchange condition, via a pressure indicator, or via a fluid flow meter. The Declaration does not address these claim limitations, but rather only states that the exhibits show a selective bypass component, and exhibits 1-4 do not show measuring a fluid parameter in the first and second conduits during the exchange condition, via a pressure indicator, or via a fluid flow meter limitations, although the Applicant's arguments concerning Parker '160 state that Parker '160 is removed as a reference because Parker '160 does not show a selective bypass conduit. With regard to new claims 51-56, Applicant's exhibits 1-4 fail to establish passing used fluid through the bypass fluid line and reintroduction into the cooling circuit without substantial flow restriction. With regard to new claim 57, Applicant's exhibits 1-4 fail to establish establishing a bypass condition so that used fluid from the cooling circuit is passed without substantial flow restriction through the bypass conduit and into the second conduit. With regard to new claim 58, Applicant's exhibits 1-4 fail to establish establishing a bypass condition to that used fluid from the cooling circuit is passed without substantial flow restriction through the bypass conduit and into the second conduit.

Examiner's Suggestions to Claim Language

The following are suggestions to improve the clarity and precision of the claims:

In claim 51, line 1, "machine" may be changed to -- system --.

In claims 52-56, line 1, "machine" may be changed to -- system --.

In claim 56, line 2, "machine" may be changed to -- system --.

Claim Objections

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 59 been renumbered as claim -- 58 --.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2-5, 24, and 51-58 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 2, lines 16-18, the recitation of the used fluid being passed through the bypass fluid line and reintroduced into the cooling circuit while being substantially unrestricted by the bypass fluid line (which was added by the Amendment of May 5, 2003) is new matter, because the term "substantially unrestricted" includes degrees which are not totally unrestricted flow, and Applicant's specification as originally filed is limited to unrestricted flow. In claim 2, lines 17-18, the recitation of the pressure within the bypass fluid line being

"substantially equivalent" to pressure within the fluid cooling circuit is new matter, because the term "substantially equivalent" includes degrees of pressure which are not totally equal pressure and Applicant's specification as originally filed is limited to equal pressure in the bypass conduit.

In claim 3, line 15, "substantially unrestricted" is new matter as above. In claim 3, line 16, "substantially equivalent" is new matter as above. In claim 4, line 10, "substantially unrestricted" is new matter as above. In claim 4, line 11, "substantially equivalent" is new matter as above. In claim 24, lines 14-15, "without substantial restriction" is new matter as above. In claim 51, line 10, "without substantial flow restriction" is new matter as above. In claim 57, lines 12-13, "without substantial flow restriction" is new matter as above. In claim 58, line 17, "without substantial flow restriction" is new matter as above.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-5, 24, and 51-58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 2, lines 16-18, "substantially unrestricted" and "so that pressure within the bypass fluid line is substantially equivalent to pressure within the fluid cooling circuit" is indefinite, because the scope of "substantially unrestricted" and "substantially equivalent" pressure cannot be ascertained. When a word of degree such as "substantially" is used in a claim, it must be determined whether the underlying specification provides some standard or guideline for measuring that degree, such that a person of ordinary skill in the art would

understand what is claimed when the claim is read in light of the specification. Seattle Box Co. V. Industrial Crating & Packing Inc., 731 F.2d 818, 826, 221 USPQ 568, 574 (fed. Cir. 1984). In the specification, there are no standards or guidelines for measuring the scope of the word "substantially" in each of the above occurrences. In claim 3, lines 14-15, the recitation of the flow being "substantially unrestricted" by the bypass conduit is indefinite as above. In claim 3, lines 15-17, the recitation of the pressure within the bypass conduit being "substantially equivalent" to pressure within the transmission cooling circuit is indefinite as above. In claim 4, lines 9-10 the recitation of the used fluid being passed "substantially unrestricted" through the bypass conduit is indefinite as above. In claim 4, lines 10-11, the recitation of the pressure within the bypass conduit being "substantially equivalent" to pressure at the pair of transmission cooling circuit ports" is indefinite as above. In claim 24, lines 14-15, the recitation of the used fluid from the cooling circuit being passed through the bypass conduit "without substantial restriction" is indefinite as above. In claim 51, lines 9-10, the recitation of the used fluid being passed through the bypass fluid line and reintroduced into the cooling circuit "without substantial flow restriction" is indefinite as above. In claim 57, lines 12-13, the recitation of the used fluid from the fluid cooling circuit passing "without substantial flow restriction" through the bypass conduit and into the second conduit is indefinite as above. In claim 58, lines 11 and 19, "normal operational parameters" is indefinite because it is unclear what "normal operational parameters" are, and the specification provides no standard or guideline for this term, therefore a person of ordinary skill in the art would not understand what is claimed when the claim is read in light of the specification. In claim 58, lines 16-17, the recitation of the used fluid from the cooling

circuit being passed through the bypass conduit "without substantial flow restriction" is indefinite as above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 3-5 and 51-55, as far as claims 3-5 and 51-55 are definite, are rejected under 35 U.S.C. 102(e) as being anticipated by Chen 5,337,708. Note in figures 1-2 and 4 the fluid exchange system 10 for performing a fluid exchange procedure on automatic transmission 14 of a vehicle having a pair of transmission cooling circuit ports 28, 34, comprising first conduit 26/24 communicating fluid from the transmission and selectively intercoupled to the fluid exchange system and one transmission port 28, second conduit 18 communicating fluid to the transmission and selectively intercoupled to the fluid exchange system and the other one 34 of the transmission cooling circuit port, bypass conduit/line 82 selectively communicating fluid between the pair of transmission cooling circuit ports 28, 34, with a bypass mode being established by selectively coupling the bypass conduit between the pair of transmission cooling circuit ports so that used fluid from the fluid circuit is passed through the bypass conduit 82 (see figure 2), with the used fluid being passed substantially unrestricted through the bypass conduit

82 so that pressure within the bypass conduit is substantially equivalent to pressure at the pair of transmission cooling circuit ports, with an exchange mode of operation (see figure 4) being established by selectively uncoupling the bypass conduit 82 and coupling the first and second conduits so that used fluid from the fluid circuit is received into the first conduit 26/24 and fresh fluid is received into the second conduit 18 and introduced into the accessed fluid circuit. Note fresh fluid receptacle 68 and used fluid receptacle 72, at least one of which is removable from the exchange system for refilling or emptying purposes. Chen also discloses the method of exchanging used fluid with fresh fluid in the automatic transmission, with the used fluid initially being contained within the transmission, and with a substantial portion of the used fluid being subsequently discharged into receptacle 72, with the fresh fluid initially being contained in source container 68, comprising identifying the transmission cooling circuit, uncoupling a portion of the transmission cooling circuit to provide access to first transmission cooling port 28 and second transmission cooling port 34, with first port 28 directing used transmission fluid outwardly from the automatic transmission under pressure from the automatic transmission, providing the fluid exchange system 10 with first conduit 26/24, second conduit 18, and bypass conduit 82 selectively communicating fluid between the first conduit and the second conduit, coupling the bypass conduit 82 to the first and second transmission cooling circuit ports 28, 34, respectively, energizing the transmission to flow used fluid through the bypass conduit 82, with the flow being substantially unrestricted by the bypass conduit so that pressure within the bypass conduit is substantially equivalent to pressure within the transmission cooling circuit, selectively stopping the flow in the bypass conduit 82 via valves 80A and 80B, and providing the first conduit 26/24 and the second conduit 18 in fluid communication with the first and second

transmission cooling circuit ports, thus flowing used fluid into the first conduit 26/24 and flowing fresh fluid into the second conduit 18 during an exchange procedure. Note electrically operated valves 80B, 80A, 80D (column 13, lines 65-68 and column 14, lines 1-2) for controlling fluid flow through either one or both of the first and second fluid line, and electrically operated valves 80B, 80A for controlling fluid flow through the bypass fluid line. The apparatus is designed to be mounted on a mobile cart (column 2, lines 21-22), with the fresh fluid source 68 and used fluid source 72 being located on a chassis of the cart (a cart inherently has some portion which is a chassis).

Claims 51-52, as far as they are definite, are also rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 2-72,299. Note the first fluid line 2 selectively intercoupled to the fluid exchange system 1, and one D1 of a pair of transmission cooling circuit ports to conduct fluid from a cooling circuit of a vehicle, second fluid line 3 selectively intercoupled to the fluid exchange system 1, source 10 of fresh fluid, and the other one D4 of the pair of transmission cooling circuit ports to conduct fluid into the cooling circuit, bypass conduit 11 (having pressure responsive valve 12 which provides selective communication at high pressure conditions, see page 16, paragraph 4 of Applicant's English translation thereof) in selective fluid communication with the pair of transmission cooling circuit ports, with the fluid exchange system having a pair of operational conditions including a first operational condition where used fluid is passed through the bypass conduit and reintroduced into cooling circuit, and without substantial flow restriction, and a second operational condition wherein use fluid is received into the first fluid line and fresh fluid is received into the second fluid line and introduced into the

cooling circuit. Note electrically operated valves 6, 9 for controlling fluid flow through either one or both of the first and second fluid lines.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 24, 26, 31-32, 56, and 57-58 (as far as claims 2, 24, and 56-58 are definite), are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen 5,337,708 in view of Becnel 3,513,941. Chen discloses a fluid exchange system and a method of exchanging used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit substantially as claimed as set forth above, with reference to figures 1-4, including measuring the fluid parameter of pressure and flow rates in first conduit 26/24 and second conduit 18 (see column 8, lines 60-68 and column 9, lines 10-18) during the exchange condition via pressure gauges such as 90 and fluid flow meters such as 86. However, Chen does not disclose that the transmission has an internal fluid pump to conduct circulated fluid in the fluid cooling circuit, and does not disclose that the first and second fluid lines each include a flexible conduit extending from the fluid exchange machine.

Becnel (figure 1 and column 1, lines 64-72 and column 2, lines 1-16) shows a fluid change apparatus for an automatic transmission 10, which is provided with at least two internal pumping units, each of which discharges into a line 12 leading to a cooler 14 mounted in or adjacent radiator 16, with a return line 18 connecting the cooler back to the transmission pan or sump, for the purpose of circulating automatic transmission fluid in the transmission. A first fluid line 21 and a second fluid line 24 are flexible, for the purpose of allowing ease of movement and connection to the automatic transmission.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the fluid exchange system and method of exchanging used fluid with a fresh fluid of Chen with an internal fluid pump located in the automatic transmission, as taught by Becnel, for the purpose of circulating automatic transmission fluid in the transmission, and to form the first and second fluid lines such that they each include a flexible conduit extending from the fluid exchange machine, as taught by Becnel, for the purpose of allowing ease of movement and connection to the automatic transmission.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen 5,337,708 and Becnel 3,513,941 as applied to claim 32 above. The modified method of exchanging used fluid with a fresh fluid of Chen shows all of the claimed subject matter including measuring the fluid parameter of flow rates in first conduit 26/24 and second conduit 18 (see column 8, lines 60-68 and column 9, lines 10-18) during the exchange condition via fluid flow meters such as 86. However, Chen as modified does not show that the fluid flow meters are electronic.

Official Notice is taken that it is known to those of ordinary skill in the art that modern electronically indicating fluid flow meter gauges are used in instances where it is desired to obtain a more accurate measure of the flow rate via an electronic readout.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to replace the flow meters of the modified fluid exchange apparatus and method of Chen with modern electronically indicating fluid flow meter gauges, for the purpose of obtaining a more accurate measure of the flow rate via an electronic readout.

Claims 24, 26, 32, and 56-58 (as far as claims 24 and 56-58 are definite), are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2-72,299 in view of Becnel 3,513,941. Japanese Patent 2-72,299 discloses a fluid exchange system and a method of exchanging used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit substantially as claimed as set forth above, but does not disclose that the transmission has an internal fluid pump to conduct circulated fluid in the fluid cooling circuit (claims 24 and 26 and 57-58), does not disclose measuring a fluid parameter in the first and second conduits during the exchange condition (claim 26), via a fluid flow meter (claim 32), and does not disclose that the first and second fluid lines each include a flexible conduit extending from the fluid exchange machine (claim 56).

Becnel (figure 1 and column 1, lines 64-72 and column 2, lines 1-16) shows a fluid change apparatus for an automatic transmission 10, which is provided with at least two internal pumping units, each of which discharges into a line 12 leading to a cooler 14 mounted in or adjacent radiator 16, with a return line 18 connecting the cooler back to the transmission pan or sump, for the purpose of circulating automatic transmission fluid in the transmission. A fluid parameter in the form of the amount of fresh fluid supplied to the automatic transmission is indicated via gauge 35 which is a fluid flow meter, and a fluid parameter in the form of the amount of used fluid conducted from the transmission is indicated via gauge 37, which is a fluid flow meter, for the purpose of indicating to the operator the amounts of fresh fluid supplied and conducted from the automatic transmission. A first fluid line 21 and a second fluid line 24 are flexible, for the purpose of allowing ease of movement and connection to the automatic transmission.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the fluid exchange system and method of exchanging used fluid with a fresh fluid of the Japanese Patent with an internal fluid pump located in the automatic transmission, as taught by Becnel, for the purpose of circulating automatic transmission fluid in the transmission, to measure a fluid parameter in the first and second conduits during the exchange condition via a fluid flow meter, as taught by Becnel for the purpose of indicating to the operator the amounts of fresh fluid supplied and conducted from the automatic transmission, and to form the first and second fluid lines such that they each include a

flexible conduit extending from the fluid exchange machine, as taught by Becnel, for the purpose of allowing ease of movement and connection to the automatic transmission.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2-72,299 and Becnel 3,513,941 as applied to claim 32 above. The modified method of exchanging used fluid with a fresh fluid of the Japanese Patent shows all of the claimed subject matter including measuring the fluid parameter of flow rates in the first and second conduits during the exchange condition, but does not show that the fluid flow meters are electronic.

Official Notice is taken that it is known to those of ordinary skill in the art that modern electronically indicating fluid flow meter gauges are used in instances where it is desired to obtain a more accurate measure of the flow rate via an electronic readout.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to replace the flow meters of the modified fluid exchange apparatus and method of the Japanese Patent with modern electronically indicating fluid flow meter gauges, for the purpose of obtaining a more accurate measure of the flow rate via an electronic readout.

Claims 26 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2-72,299 and Becnel 3,513,941 and Parker 5,370,160. Japanese Patent 2-72,299 discloses a method of exchanging used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit, with a fluid exchange system 1 for performing

a fluid exchange procedure on automatic transmission A of a vehicle comprising first conduit 2 communicating fluid from the transmission, second conduit 3 communicating fluid to the transmission, bypass conduit 11 (having pressure responsive valve 12 which provides selective communication at high pressure conditions, see page 16, paragraph 4 of Applicant's English translation thereof) selectively communicating fluid between the first conduit and the second conduit where the first conduit and the second conduit are coupled into an accessed fluid circuit C-D of the vehicle, with a bypass mode being established by selectively coupling the bypass conduit between the first and second conduits so that used fluid from the fluid circuit is received into the first conduit, passed through the bypass conduit, and into the second fluid conduit so that used fluid is reintroduced into the accessed fluid circuit, with an exchange mode of operation being established by selectively uncoupling the bypass conduit between the first and second conduits so that used fluid from the fluid circuit is received into the first conduit and fresh fluid is received into the second conduit and introduced into the accessed fluid circuit. Note fresh fluid receptacle 10 and used fluid receptacle 7, at least one of which is removable from the exchange system for refilling or emptying purposes. The Japanese Patent also discloses the method of exchanging used fluid with fresh fluid in the automatic transmission, with the used fluid initially being contained within the transmission, and with a substantial portion of the used fluid being subsequently discharged into receptacle 7, with the fresh fluid initially being contained in source container 10, comprising identifying transmission cooling circuit C-D, uncoupling a portion of the transmission cooling circuit to provide access to first port D1 and second port D4, with first port D1 directing used transmission fluid outwardly from the automatic transmission under pressure from the automatic transmission, providing the fluid

exchange system 1 with first conduit 2, second conduit 3, and bypass conduit 11 selectively communicating fluid between the first conduit and the second conduit, coupling first conduit 2 to the first port D1, coupling second conduit 3 to the second port D4 via radiator C and line D3, energizing the transmission to flow used fluid through first conduit 2, bypass line 11, and second conduit 3, and selectively blocking fluid communication between the first conduit 2 and the second conduit 3 via bypass conduit 11 and valve 12 thus flowing used fluid into the first conduit 2 and flowing fresh fluid into the second conduit 3 during an exchange procedure.

However, Japanese Patent 2-72,299 does not disclose that the transmission has an internal fluid pump to conduct circulated fluid in the fluid cooling circuit, and does not disclose measuring a fluid parameter in the first and second conduits during the exchange condition, via a pressure indicator, or via a fluid flow meter.

Becnel (figure 1 and column 1, lines 64-72 and column 2, lines 1-16) shows a fluid change apparatus for an automatic transmission 10, which is provided with at least two internal pumping units, each of which discharges into a line 12 leading to a cooler 14 mounted in or adjacent radiator 16, with a return line 18 connecting the cooler back to the transmission pan or sump, for the purpose of circulating automatic transmission fluid in the transmission.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the fluid exchange system and method of exchanging used fluid with a fresh fluid of the Japanese Patent 2-72,299 with an internal fluid pump located in the

automatic transmission, as taught by Becnel, for the purpose of circulating automatic transmission fluid in the transmission.

Parker (figure 3) shows a method of exchanging used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit whereby pressure is measured in a first supply conduit 15 via pressure gauge 43 and flow rate is measured via flow meter 41 in the first conduit, and pressure is measured in a second removal conduit 13 via pressure gauge 25 and flow rate is measured via flow meter 31 in the second conduit, for the purpose of indicating the pressure and flow rate of fresh fluid flowing into the transmission and used fluid flowing out of the transmission during an exchange procedure.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to provide the modified fluid exchange method of Japanese Patent 2-72,299 with pressure gauges and flow rate meters in the first and second conduits, as taught by Parker, for the purpose of indicating the pressure and flow rate of fresh fluid flowing into the transmission and used fluid flowing out of the transmission during an exchange procedure.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2-72,299 and Becnel 3,513,941 and Parker 5,370,160 as applied to claim 32 above. The modified method of exchanging used fluid with a fresh fluid of Japanese Patent 2-72,299 shows all of the claimed subject matter except for the fluid flow meters being electronic. Rather, the flow meters are sight gauges, which are visual.

Official Notice is taken that it is known to those of ordinary skill in the art that visual sight gauges (which are a mechanical type gauge) are replaceable via modern electronically indicating fluid flow meter gauges, for the purpose of obtaining a more accurate measure of the flow rate via an electronic readout.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to replace the mechanical sight gauges of the modified fluid exchange apparatus and method of Japanese Patent 2-72,299 with modern electronically indicating fluid flow meter gauges, for the purpose of obtaining a more accurate measure of the flow rate via an electronic readout.

Claims 54-55, as far as they are definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2-72,299 in view of either (Ohta 4,938,315 or Takeuchi 4,095,673). The Japanese Patent discloses a fluid exchange machine substantially as claimed as set forth above, but does not disclose that the fresh fluid source 10 and used fluid source 7 are on a portable chassis.

Ohta (figure 1) and Takeuchi (figure 1) show oil change machines whereby fresh and used fluid sources 15B, 15A, and 5, 4, respectively, are located on portable chassis 10, 1, respectively, for the purpose of allowing ease of transport.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the fluid exchange machine of the Japanese Patent such that the fresh fluid source 10 and used fluid source 7 are on a portable chassis, as taught by either Ohta or Takeuchi, for the purpose of allowing ease of transport.

Allowable Subject Matter

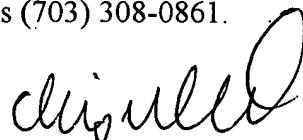
Claims 25, 28-30, and 34-41 are allowed.

Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (703)-308-2638. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (703) 308-1044. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Christopher Verdier
Primary Examiner
Art Unit 3745

C.V.
October 24, 2003